

ABSTRACT OF THE DISCLOSURE

5           A multi-agent autonomous system for exploration of  
hazardous or inaccessible locations. The multi-agent  
autonomous system includes simple surface-based agents or  
craft controlled by an airborne tracking and command system.  
The airborne tracking and command system includes an  
10 instrument suite used to image an operational area and any  
craft deployed within the operational area. The image data is  
used to identify the craft, targets for exploration, and  
obstacles in the operational area. The tracking and command  
system determines paths for the surface-based craft using the  
15 identified targets and obstacles and commands the craft using  
simple movement commands to move through the operational area  
to the targets while avoiding the obstacles. Each craft  
includes its own instrument suite to collect information about  
the operational area that is transmitted back to the tracking  
20 and command system. The tracking and command system may be  
further coupled to a satellite system to provide additional  
image information about the operational area and provide  
operational and location commands to the tracking and command  
system.

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